

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claims 1-33 (canceled)

34. (new) A plasma treatment apparatus, comprising:

a top formed to include a gap, a bottom, and one or more walls interconnecting said top and said bottom, wherein said top comprises a first cathode and a second cathode, and wherein said first cathode and said second cathode are separated by said gap;

one or more magnets, wherein said one or more walls comprise said one or more magnets, wherein said one or more magnets can generate a magnetic field comprising a first portion and a second portion, wherein said first portion is disposed between said top and said bottom, and wherein said second portion extends outwardly from said top.

35. (new) The apparatus of claim 34, further comprising a substrate disposed adjacent said top such that said second portion of said magnetic field portion is disposed between said top and said substrate.

36. (new) The apparatus of claim 34, further comprising:

a power supply interconnected with said first cathode and said second cathode;

an anode interconnected with said power supply, wherein said bottom comprises said anode.

37. (new) The apparatus of claim 36, wherein said top, bottom, and one or more walls define a process chamber, and wherein said bottom is formed to include a process gas inlet such that process gas from an external source can be introduced into said process chamber.

38. (new) The apparatus of claim 34 wherein at least one of the cathodes comprises a non-planar cathode surface.

39. (new) The apparatus of claim 38 wherein at least one of the cathodes comprises a facing cathode surface having a shape selected from the group consisting of: a point, a bevel, a rounded surface, a stepped surface, a ridged surface, and combinations thereof.

40. (new) The apparatus of claim 34 wherein the cathodes comprise ends and a central portion, and wherein the cathodes are shaped such that the gap is wider at the ends than at the central portion.

41. (new) The apparatus of claim 40, wherein the ends of the cathodes are beveled.

42. (new) The apparatus of claim 34, wherein the magnetic field comprises a maximum strength magnetic field line, wherein the maximum strength magnetic field line has a maximum magnetic field strength B1 adjacent one of the cathodes and a minimum magnetic field strength B2 at a central portion of the gap, and wherein B1/B2 is greater than 2.

43. (new) The apparatus of claim 42 wherein B1/B2 is greater than 4.

44. (new) A plasma treatment apparatus, comprising:

a top formed to include a gap, a bottom, and one or more walls interconnecting said top and said bottom, wherein said top comprises a first cathode and a second cathode, and wherein said first cathode and said second cathode are separated by said gap;

one or more magnets, wherein said one or more bottom comprises said one or more magnets, wherein said one or more magnets can generate a magnetic field comprising a first portion and a second portion, wherein said first portion is disposed between said top and said bottom, and wherein said second portion extends outwardly from said top.